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Action Plan for Reducing the Risk of ...

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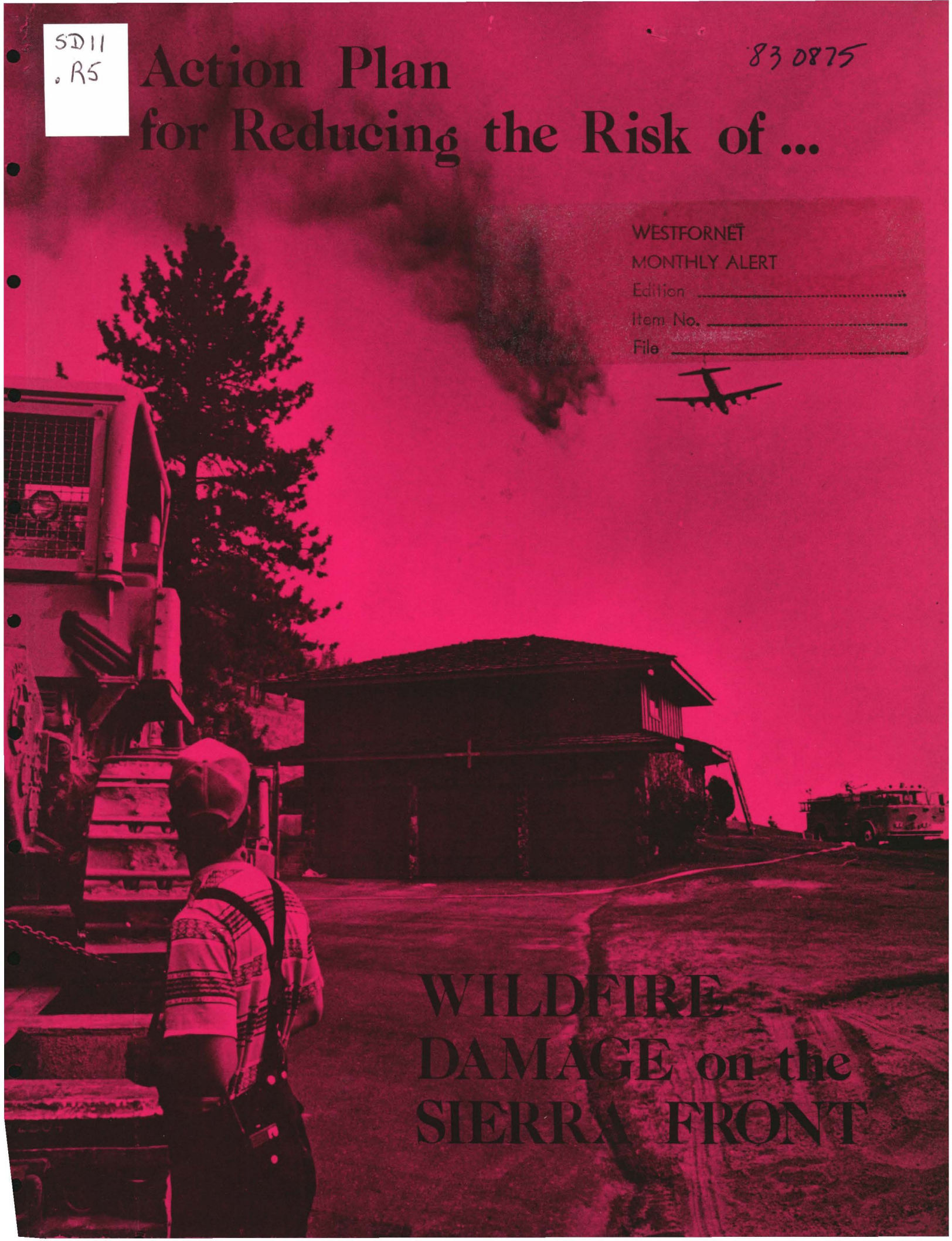

WILDFIRE DAMAGE on the SIERRA FRONT

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Interagency Action Plan for Reducing the Risk of Wildfire Damage on the Sierra Front

1982

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Action Plan For Reducing The Risk Of Wildfire Damage On The SIERRA FRONT

The continuing increase in the urban population of the Sierra Front has created growing pressure for use and occupancy of the State's wildlands and other rural areas. It has also created a rising demand for the use of natural resources and for an improved quality of the wildland environment.

These trends have given rise to a distinct increase in the number of human-caused wildland fires since the early 1960's. The destruction of natural resources, life and property by large fast spreading fires in wildland and other rural areas should leave no doubt that the potential for fire-caused disasters is growing faster than our ability to cope with them.

In the aftermath of the 1981 western Nevada fires, Regional Forester Jeff Sirmon and State Forester Lody Smith, directed that a task force be formed to review the fires and recommend ways in which local, state and federal agencies could help reduce the threat to life, resource values and property from wildfire. This action plan is the result of that effort.

Some of the factors contributing to the Sierra's wildland fire problem:

- People are moving into rural and mountainous areas of the state at an increasing rate.
- Many new residents are moving into homes which are extremely vulnerable to destruction by wildfire, without fully appreciating the risks.
- Because of inexperience with wildland fire hazards, new residents are causing more wildland fires to start.

- Land-use planning practices still permit subdivisions and individual structures to be developed without adequate fire safety measures.

- Highly flammable vegetative fuel (slash, brush, timber reproduction, etc.) is accumulating faster than it is being removed by natural decay, fire and other influences; consequently, wildland fires tend to burn with greater intensity and are more difficult to control.

- Fires in the east Sierras typically are downslope fires, caused by strong westerly flows over the Sierras. Wildfires frequently threaten structures and often spread in all directions.

Unless actions are taken soon to mitigate those factors, the following conditions can be predicted with reasonable assurance:

1. The trend of increasing fire incidence will continue.

2. An increasing number of fires will burn with greater intensity.

3. More people will be living in wildland areas or in adjacent urban developments.

4. More large fires will spread from the wildland vegetation and involve more people and their homes.

5. An increasing number of large fires will result in increased damage to renewable natural resources.

6. Damages to downstream areas from flooding, wind blown dust, and sedimentation following major fires will be magnified.

7. Federal, State and local resources to fight fires will not increase in proportion to the threat because of permanent fiscal constraints and competing demands for fiscal support.

Many actions are planned which require funds and/or action by Federal agencies, State Forester, local government, the private sector, and the public. Without such actions, more tragedies can be expected throughout the east Sierras as has been the historical case.

Introduction

For the purpose of this action plan, the "Sierra Front" includes Mt. Charleston on the Las Vegas District and an area on the east side of the Sierra Nevada Mountains stretching from Bridgeport on the south to Dog Valley, just north of I-80, and east from the front range between Lake Tahoe and the Washoe Valley to Highway 395. The Spring Mountain Range is included because of its similarity in fuels, fire behavior, hazards, and fire occurrence. (see Figure 1)

Included is a small portion of the Tahoe Basin in Nevada since it lies within the state whereby much of this action plan will be implemented.

Approximately 400,000 acres of intermingled jurisdiction is a part of this action plan. This plan is a proposal from which the following will hopefully occur:

-- Specific plans approved by all cooperating parties
-- A committment to funds and resources to carry out the plan
-- A guide post against which to measure accomplishment and effectiveness

Wildfire is a natural phenomenon along the Sierra Front. Periodically, hundreds of acres of private and Federal wildlands are blackened by wildfire. Many natural resource values are destroyed in these fires: livestock forage, wildlife browse, timber, wildlife, natural aesthetics, recreational values, and water quality. Real property such as fences, communication systems, water systems, powerlines, corrals, vehicles, and structures are also consumed or damaged. Development of real estate in wildland areas increases the possibilities of greater economic resource loss in the event of wildfire. For

example, one acre of brush covered land may be valued at $300.00 for livestock forage, wildlife browse, watershed and recreation; the same acre with a residential structure developed on it may be valued at $250,000.00 to $500,000.00. The increase in real estate value realistically warrants an increase in fire protecton and management emphasis.

Since the 1960's, the Sierra Front has been undergoing rapid socioeconomic changes: populations have shown rapid growth, leisure time has been on the increase, transportation systems improving, per capita income rising, and social pressures are becoming intense in and around urban centers like Reno, Carson City and Las Vegas. These and other factors have led to an increase in demand for homesites in the east Sierra's of Nevada and California. This demand has subsequently resulted in an increase in the amount of private wildlands being subdivided and sold as residential lots.

Wildland subdivisions present economic, social, and environmental problems. They often convert lands formerly under multiple use management to single use management; mainly private residential use. Private wildlands formerly being utilized to produce livestock forage, high quality water for culinary and irrigation uses, forest products, dispersed recreation, wildlife, and minerals are now being used for residential development. Wildland subdivisions frequently produce a demand for community services costing much more than the increased tax revenues they generate. Inflation continues to reduce existing services below traditional levels.

Not all wildlands are alike. This holds true in the case of wildfire hazards. Each wildland area has a unique degree of fire hazard severity. This makes it very difficult for Federal and local authorities to identify and implement

realistic management protection levels. A wildfire hazard factor, such as heavy vegetation, may exist in one wildland subdivision or area and be nonexistant in another. Therefore, authorities need to consider identifying and classifying wildland subdivisions as to their respective degrees of fire hazard severity, and develop management and protection levels accordingly.

This action plan summarizes the work of a task force and presents recommended actions in three major areas:

- **Risk Reduction And Land Use Standards**
- **Vegetative Management/Hazard Reduction**
- **Fire Suppression System Improvement**

The recommendations are the result of input from several people representing diverse federal, state and local government agencies, the private sector and public.

Summary of Recommendations

Risk Reduction and Land Use Standards

1. Prepare a fire hazard/risk assessment on the Sierra Front including "structures" as part of fuel component.

2. Recommend that fire-resistant materials be called for on roof coverings for all structures built within wildland fire hazard and transition areas.

3. Inform purchasers of property in high fire hazard areas of the potential for fire hazards and of any potential limitation on loss indemnification.

4. Develop fire safe guides for use by home owners and local governments.

5. Encourage local governments to endorse and use Fire Safe Guides as minimum standards in wildland and adjacent areas.

6. Encourage local approving agencies that fire hazard potential be considered before approval of any subdivision or parcel.

7. Develop an interagency public information action plan.

Vegetative Management/Hazard Reduction

8. Publish fire hazard/risk maps of the Sierra Front and make them available to local government and the public.

9. Develop an integrated vegetation management plan for the Sierra Front.

10. Develop an interagency wildfire rehabilitation plan for the Sierra Front.

11. Develop an interagency fire prevention plan for the Sierra Front.

Fire Suppression System Improvement

12. Develop interagency communication plan.

13. Implement by 1984 a common emergency management system (NIIMS); state agencies encourage and assist local governments in the adoption of such command system.

14. Develop Interagency Preattack and preplanned dispatch system.

15. Evaluate feasibility of an interagency I.A. Air Program for northern Sierras and Las Vegas.

16. Organize an interagency fire overhead team for Sierra Front fires with alternates.

17. Evaluate feasibility of interagency fire warehousing of emergency fire cache.

18. Develop an interagency fire investigation process.

Discussion of Recommendations

Risk Reduction and Land Use Standards

The development of private property in wildland areas of Nevada and California is influenced by both the public and private sectors. The management of land uses lies predominantly within the responsibility of local governments. They are responsible for the protection of public health, safety, and welfare and should consider the potential hazards associated with new development on all major types of land. This control is exercised through the development and implementation of general plans, the adoption and administration of zoning, and the review and approval of specific development plans. Ordinances set standard requirements for the type of construction and the siting of buildings, as well as for water supply and access to property. All of these actions affect the hazards to the public from new developments and the vulnerability of those developments to fire hazards.

Local control of the use of land is a sensitive and evolving issue. There is continuous litigation in state and federal courts attempting to define the limits of local government's power to control the use of private property.

Actions by local government to regulate the use of private property will continue to receive careful scrutiny. Sensible local control of land use and

the cooperation of the private sector is essential in providing mechanisms needed to prevent additional hazards from continuing development of wildland areas in the Sierras.

1. Prepare a fire hazard/risk assessment on the Sierra Front including structures as part of the fuel component.

   There is a critical need to evaluate hazard/risk on what is termed the "Sierra Front" to deal with highest priorities first. Obtain oblique photography of areas. Map urban access and transportation routes.

2. Recommend that fire-resistant materials be called for on roof-covering for all structures built within wildland fire hazard and transition areas. Through the International Conference of Building Officials (ICBO), recommend that standards of the uniform building code be amended to exclude the use of combustible roof coverings in wildland fire hazard and transition areas.

   Nonfire-resistant (combustible) wood roofs have contributed significantly to the spread of fires. In past experience elsewhere over 90% of homes that burned had wood roofs, creating fire brands and allowing rapid burn-through to the interior of the houses.

3. Inform purchasers of property in high fire hazard areas of the potential for fire hazards and of any potential limitation on loss indemnification.

   Unsuspecting and unknowledgeable consumers often purchase residential property in hazardous fire areas. Often the insurance coverage requested for such properties does not reflect increasing values in the real estate market, and consumers are unaware of hazards which might otherwise cause them to maintain adequate coverage. When disasters do occur, many such people receive compensation for their loss but may feel forced to rebuild, only to face similar future hazards. Erroneous assumptions are common as to who is responsible for fire protection in a given area.

4. Develop fire safe guides for use by home owners and local governments.

Fire Safe Guides provide an excellent tool for guiding residential development in wildland areas. Fire safe guides will address concerns regarding access, traffic circulation, water supply and storage, roof types and vegetative clearance.

There is a need for development of standards in Nevada for urban growth near or adjacent to wildland areas.

5. Encourage local governments to endorse and use Fire Safe Guides as minimum standards in wildland and adjacent areas.

The California Department of Forestry document, Fire Safe Guides for Residential Development in California (1980), represents an immediately available set of guidelines and standards that Nevada can modify and use to help upgrade existing safety elements. It includes recommendations on clearance, construction materials, water supply and access and is useful to developers and the general public. A similar guide will be developed for use in Nevada.

6. Encourage local approving agencies that fire hazard potential be considered before approval of any subdivision or parcel.

The local approval of subdivision of land does not now fully consider the potential fire hazards related to the creation of new building sites.

Subdivision approval currently requires a local jurisdiction to make several findings of fact before it can approve a subdivision. While it is required to find consistency with the adopted general plan, there currently is no requirement for a finding that the development has been designed to minimize fire and related hazards.

7. Develop an interagency Public information action plan.

Due to the extreme variation of seasons in the Sierras wildfire awareness is easily lost during times of low incidence. Involvement of local and state government along with the private citizens will provide for a viable long range program of public awareness and support.

Actions will develop public understanding, participation, and support for fire management program.

The program will be interagency, keying on community leadership and opinion makers.
Emphasis will be on local self-help.

May involve private businesses such as power companies, insurance companies in developing cost information for savings from fire reduction program.

Will use citizen groups, rural fire departments, sportsmen's groups, local governments, etc.

Vegetative Management and Fire Hazard Reduction

Effort needs to be made to reduce the fuel available for wildland fires, through vegetative manipulation, and reestablishing a diverse and healthy vegetation cover in wildlands near urban areas and in the non-urban areas of the Sierra Front.

Vegetation management has both direct and indirect benefits. Direct benefits include reductions in wildfires and suppression costs, and protection of resource values. Indirect benefits may include increased water production and opportunities for recreation and wildlife habitat improvement.

8. Publish fire hazard/risk maps of the Sierra Front and make them available to local government and the public.

There is a need for better and more consistent information and mapping of vegetation communities and related fire hazard "zones."

The criteria for and mapping of vegetaion communities and related fire hazard zones could provide useful information to Federal and state agencies, local governments and to the public.

There are available, Fire Hazard Severity Classification Systems (such as described in Fire Safe Guides for Residential Development in California). Based on criteria such as fuel, fire

weather, and slope, they could be modified to provide a basis for Sierra Front fire hazard maps. Maps utilizing this system would be useful in providing information to planners, developers, and local government officials involved in development of wildland areas and to citizens interested in avoiding fire hazards associated with residing in wildland areas.

9. Develop an integrated vegetation management plan for the Sierra Front.

There is a need to develop plans for vegetation management in close proximity to urban areas of the Sierras. These plans will be designed to incorporate access needs, fire prevention, timber management, prescribed fire, fuel breaks, structural protection, fuelwood, wildlife, etc.

Severe problems have been caused by numerous fires near urban areas in the east Sierras. Because of the inherent hazards of fire within or near urban settings, not enough work has been done to demonstrate the effectiveness of integrated resource management in reducing the threat of wildfire to urban residents. However, 1981 fires once again demonstrated the need to reduce the risk of fire near urban areas.

An interagency approach to management is necessary because of budgets, ownership patterns, rapid growth, and the need to share expertise.

10. Develop an interagency wildfire rehabilitation plan for Sierra Front.

The relative value of revegetation for erosion control under different conditions in wildland areas needs to be better understood and mutully supported. Reseeding and reforestation following major fires has been common practice for many years. In recent years, however, the process has become much more complex. Many more environmental and fiscal constraints exist on a growingly complex ownership base. Frequently fire rehabilitation is treated differently on adjacent lands between federal/state/local agencies and private land.

11. Develop an interagency fire prevention plan for the Sierra Front.

The Sierra Front ranks very high in incidence of human caused fires. Complete an analysis of human-caused fires and concentrate interagency effort in high hazard/risk areas. Determine where greatest return is in fire prevention.

Fire Suppression System Improvement

12. Develop interagency communication plan.

A basic land based system to deal with natural disasters (earthquakes, fires, flooding) available to field personnel of all agencies is desperately needed.

At present there are many authorities and agencies which must take action during emergencies. Generally, the more serious the emergency, the more agencies that must respond. Emergency response agencies must work together, but most coordinate without some of the very basic tools which would permit improved effectiveness. No microwave capability currently exists among Federal agencies. The ability for interagency communication is non-existant at this time.

Promote and coordinate the development of "Frequency Sharing Agreements" and the acquisition of synthesized radios. Upgrade the total system that now exists so that resources can be shared.

Promote the implementation of a microwave system for the Federal agencies in the state of Nevada.

Consider the implementation of separate radio nets for fire and logistical use.

13. Implement by 1984 a common emergency management system (NIIMS); state agencies encourage and assist local governments in the adoption of such command system.

The Federal wildland fire protection agencies and State agencies have, for many years, operated under the Large Fire Organization (LFO). This organization, when coupled with the National Interagency Fire Qualification System (NIFQS) developed by the National Wildfire Coordinating Group (NWCG) is a complete fire management system. However, the terminology and the organization structure are barriers to coordination with fire departments and other emergency services. In addition, the qualification and certification system (NIFQS) caused difficulty in integrating State and local forces in suppression efforts.

It is often difficult for all of these organizations to function cooperatively in an efficient manner because they use different terminology, employ personnel with widely varying qualifications, set different standards for equipment, and

have no common radio frequencies, or radio systems compatible with each other.

All emergency service units should have a common terminology and operate cohesively during emergencies. The National Interagency Incident Command System has proven to be an effective management system for large scale emergencies.

14. Develop interagency preattack and preplanned dispatch system.

Identify and develop fuel breaks at critical points.

Consider unique downslope wind conditions in planning. Plan for special traffic control needs because of the large number of people living in the area.

15. Evaluate feasibility of an interagency I.A. Air Program for northern Sierra Front and Las Vegas.

A multifunded light or medium helicopter has been successfully implemented at Bridgeport, California for the southern Sierras. It is funded, crewed and worked on an interagency basis. A similar approach applied to all aviation operations for the northern Sierras (Dog Valley to Markleeville) may have many payoffs in improving effectiveness of initial attack. Initial cooperators may be:

Western Area, NDF	Southern Area, NDF
Toiyabe National Forest	Toiyabe National Forest
Carson District BLM	Las Vegas District BLM

16. Organize an interagency fire overhead team for Sierra Front fires with alternates.

Between all agencies represented locally, there are highly qualified people to handle most escaped fires. A team will be developed from co-operator ranks under the NIIMS system.

17. Evaluate feasibility for interagency fire warehousing of emergency fire cache.

The State and F.S. has made an effort at combining their emergency fire cache. Better utilization, management and efficiency can be realized when emergency caches are combined.

18. Develop an interagency fire investigation process.

Person caused fires continue to be a growing problem on the Sierra Front. Varying fire investigation skills exist among individual agencies. A process to cross-train and utilize these skills would make the overall effort more effective. Prompt and accurate investigation is necessary on all fires of questionable origin.

Interagency Goals to Meet the Sierra Front Fire Management Action Plan.

Agencies identified will take lead role in evaluating & developing plans to to accomplish action items.

	NDF	FS	BLM
1. Accomplish a Fire Hazard/Risk Assessment on Sierra Front. Include structures as part of fuel component and assessment.		X	
2. Recommend that fire-resistant materials be called for on roof coverings for all structures built within wildland fire hazard and transition areas.	X		
3. Inform purchasers of property in high fire hazard areas of the potential for fire hazards and of any potential limitation on loss indemnification.	X		
4. Develop fire safe guides for use by home owners and local governments.	X		
5. Encourage local goverments to endorse and use Fire Safe Guides as minimum standards in wildland and adjacent areas.	X		
6. Encourage local approving agencies that fire hazard potential be considered before approval of any sub-division or parcel.	X		
7. Develop an interagency Public Information action plan		X	
8. Publish fire harzard/risk maps of the Sierra Front and make them available to local government and the public.	X		
9. Develop an integrated vegetation management plan for the Sierra Front.		X	
10. Develop an interagency wildfire rehabilitation approach for the Sierra Front.			X
11. Develop an interagency fire prevention plan for the Sierra Front.		X	
12. Develop an interagency communication plan.		X	
13. Implement by 1984 a common emergency management system (NIIMS); state agencies encourage and assist local governments in the adoption of such command system.		X	
14. Develop an interagency preattack and preplanned dispatch system.	X		

		NDF	FS	BLM
15.	Evaluate feasibility of an interagency I.A. Air Program for northern Sierra Front and Las Vegas.			X
16.	Organize an interagency fire overhead team for Sierra Front fires with alternates.		X	
17.	Evaluate feasibility of interagency fire warehousing of emergency fire cache.		X	
18.	Develop an interagency fire investigation process.	X		